Caespitosa, ramosissima, sordide albida: trunco tenui; ramis ramulisque congestis, elongatis, acutis, siccitate fuscescentibus et subfiliformibus.

Western Port, Miss M. Lewellin.

Polyporus (*Pleuropus*) *Strangerii*, F. v. Mueller.

Pileo suberoso-coriaceo, eumorpho, reniformi, convexo, subumbilicato, azono, impolito, unbrino-nigrescente; stipite brevi cylindrico incurvo incrustato undique nigro; poris minimis, rotundis, obtusis, cum substantia pilei niveis.

Riverina, C. F. Stranger, Esq.

Pol. melanopodi (Fries) proximus. Pileus 1-1½ pollices latus, 1-2 lineas crassus, margine acuto incurvus. Stipes vix 3 lineas longus, 2 lineas crassus, basi in discum dilatatus.

Wallendorf, December, 1881.

On a Species of *Galaxias* found in the Australian Alps.

By William Macleay, F.L.S., &c.

I received from Baron von Mueller a few days ago, two specimens of a small fish which inhabits the icy ponds of the snowy range in the neighbourhood of Mt. Kosciusko. The Baron writes as follows: "I saw the same little creature in several of the waters high up in the Alps, during my exploration of the Snowy Mountains in 1853-4, and 1855, and again in later years when travelling, but I was in the then pathless alpine regions, unable to preserve zoological specimens. When in 1874, I for the second time ascended Mt. Kosciusco, I saw this species of fish again in the little glacier ponds, but missed catching any, my time being so much occupied, during my brief stay on the snowy summit, in the pursuit of plants."

The two specimens now sent me were captured by S. Findlay, Esq., J.P., on Mt. Kosciusko a short time ago, and in accordance with the learned Baron's expressed wish, I dedicate the species to its finder.

GALAXIAS FINDLAYI, *n. sp.*

D. 9, A. 12, P. 14, V. 7, C. 16.

The height of the body is about one-tenth of the total length, and the length of the head about one-fifth of the same. Head blunt and rounded in front, the space between the eyes broad and nearly flat; eyes small; the cleft of the mouth reaching to beneath the front margin of the eye; teeth minute in the jaws, and two rows of similar small teeth on each side of the vomerine ridge. There are numerous pores on the head. The length of the pectoral fin is less than the distance between its extremity and the ventral fin, and the length of the ventrals is less than their distance from the vent; the dorsal fin is situated almost entirely in front of the anal; the caudal is rather long and emarginate, a fold of skin joining it above and below to the body—the upper fold largest, but in neither case extending to the vertical fins, which are distant from the tail. A distinct anal papilla. Colour in sprits yellowish brown, the back densely speckled with very minute brownish dots, taking the form of very indistinct fasciæ.

Both specimens are small—the largest not exceeding three inches in length,—and are evidently immature. In a paper contributed by me to our Proceedings, Vol. v, p. 45, in describing another species of this genus from the head waters of the Colo River at Mt. Wilson, I point out the probability of fishes of this kind being abundant and probably of considerably size in the cold streams of the Snowy Mountains. In the same paper I gave a list of all the genus then known, with remarks on the peculiarities of the family. These consist of, first, the perfect

isolation of the group, there seemingly being no relationship with any other family of fishes, unless the remarkable Mud Fish of New Zealand (*Neochanna*) forms an exception. The species are numerous, but so much alike, that it is, looking at their distribution, more than probable that they are one and all only permanent local varieties of the same fish.

But the chief interest attached to these fishes is in their distribution. They are found only in the rivers of Southern Chili, Magellan Straits, the Falkland Islands, Tasmania, New Zealand, and those parts of Australia where the rivers take their rise in the Snowy Mountains or in cold elevated table lands. So that in fact we find this singular fish in all the lands which extend into the colder regions of the Southern Pacific and nowhere else. The deduction from this singular fact is very plain. At one period,—probably very remote even in a geological sense,—the area of land above the sea in the antarctic regions must have been very much in excess of what it is at present, at all events sufficiently extended to admit of some kind of continuity across the whole width of the Pacific between the southern extremity of South America and Australia. There is no other way of accounting for the appearance of these fishes in such widely different localities.

There are other instances of similarity in the Fauna of South America and Australia, and Professor Hutton several years ago in an essay, "On the Geographical relations of the New Zealand Fauna," (N. Z. Instit. Trans., vol. 5.) showed from the distribution of the Struthious birds in the Southern Hemisphere that there must formerly have existed a huge Antarctic Continent, connecting South America, South Africa and Australia. What has become of this gigantic continent? The Geologist's answer will of course be that it has sunk, and such a theory is a most convenient one, as it at once gets rid of all troublesome questions as to the How and the Why. I think it however, more likely and

much more intelligent, that it has been submerged by the gradual filling up of the sea during the break up of the glacial period.

Mr. Belt, the author of "The Naturalist in Nicaragua," was I believe, the first to suggest the melting of the ice at the end of the glacial period as accounting for the disappearance of large masses of land beneath the sea. He pointed out that the gradual accumulation of the waters of the earth during the long glacial period, on the land in the shape of glaciers, must have to that amount decreased the volume of the sea, and consequently increased the extent of dry land. He calculates, the addition to the depth of the sea, by the break up of the glacial period at 2,000 feet, and he shows, the very considerable area of the present Atlantic Ocean which must have been dry land up to that time.

A mere rise in the ocean of 2,000 feet would not, however, account for the submergence of such a vast continent as has disappeared in the South Pacific, but if we suppose a difference of level of 1,000 fathoms, the result would be very different.

Is the estimate of 1,000 fathoms as the increased depth of the sea at the end of the glacial period excessive or impossible? I think not. Of course if we take the proportions of land and water as they appear at present, it would seem impossible that such a mass of ice as this supposition would involve could ever have been heaped up on the land as it is now, but the lowering of the level of the sea by even a few hundred feet would largely increase the area of dry land, and a lowering of, as I suppose, 1,000 fathoms would reduce the sea to very small limits, and leave a very preponderating extent of dry land for the storage of ice. It strikes me that Mr. Belt's theory is worthy of more consideration than has been generally given to it. It gives a probable and intelligible reason for the submersion of whole continents, whereas the subsidence theory gives none.